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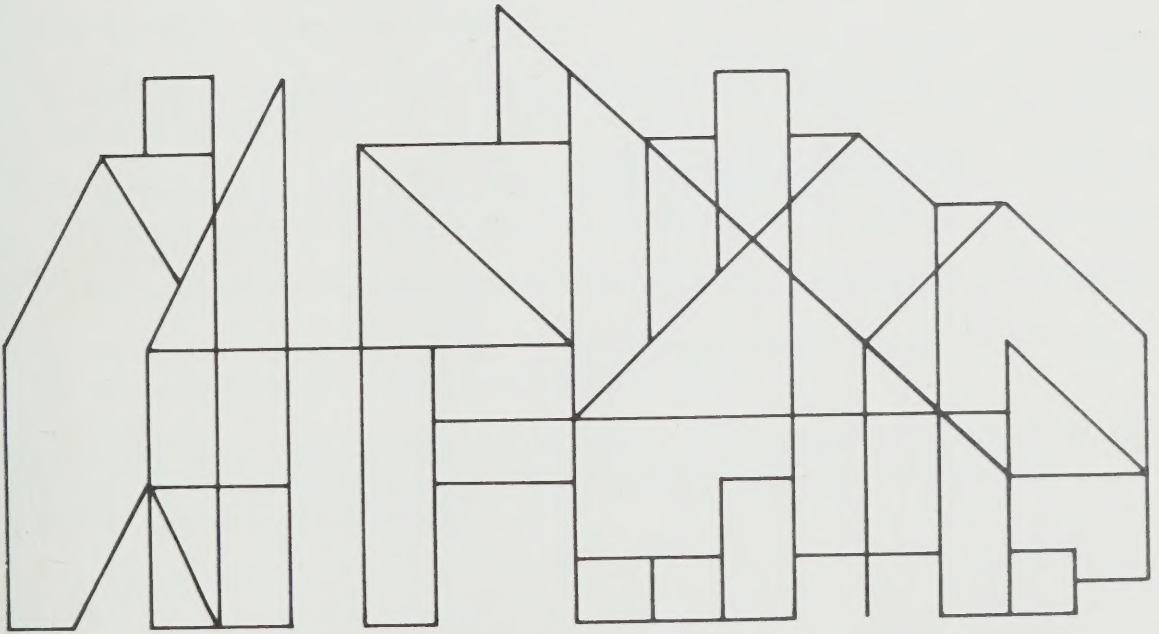


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Guidelines for Residential Housing



Note

These guidelines are intended to assist health agencies in the implementation of their housing programs. They should be used in conjunction with, and to co-ordinate the applicable acts, codes and by-laws to which reference is made throughout the guidelines.

Should there be a conflict between these guidelines and any legislated document, the latter would take precedence, with the exception of some requirements of the Public Health Act such as those dealing with space (Section 2.7 and 2.8) and garbage removal (Section 9.5) which have been modified in the guidelines to comply realistically with present day conditions.

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Remarks

- Asterisks opposite certain sections of these guidelines indicate that there are explanatory notes, which follow the section and are printed in color.
- For Glossary of terms, refer to Appendix I, page 23.

Introduction

Residential housing, as the shelter for the family, is the core of man's environment and as such involves many aspects of environmental health concern. Water supplies, sewage and garbage disposal, spatial provisions, thermal conditions, ventilation, illumination, noise and accident-creating hazards are all aspects that can affect man's physical, mental and social well-being.

The main objective of these residential guidelines is to help protect and promote the health of the people of Ontario within the home environment. The guidelines are concerned with the environmental health considerations of housing and delineate the basic criteria for housing from the health point of view. They are necessarily broad in order to accommodate regional differences apparent within Ontario.

The Guidelines as applied in relation to The Public Health Act, its regulations and related by-laws cover only permanent residential housing. Not included are temporary types of housing such as trailers and tents, and those types covered by provincial regulations such as institutional, recreational and industrial establishments. Also not covered by these guidelines is housing for senior citizens and for the physically handicapped since the specialized needs of these groups require special guidelines.

Specific objectives of the guidelines are:

1. To assist public health agencies in implementing their housing programmes by providing criteria to achieve this end.
2. To provide uniformity in the appraisal of housing as it affects health, by the collection, maintenance and analysis of data on housing quality within communities.
3. To assist planners in developing new or improved housing.
4. To enable public health agencies to collaborate effectively with other agencies having jurisdiction over and involvement in housing inspections.

These guidelines are intended to be used as an aid to complement but not replace existing local housing by-laws. As such, they can be amended and up-dated on the basis of information acquired at the local level.

Section 1 **Safety Requirements**

A. Objective

To provide a safe residential environment by identifying suitable criteria.

B. Guidelines

- *1.1.** Every building and every structural member of a building should be designed and maintained in such condition as to have sufficient structural strength to resist safely and effectively all anticipated forces which affect structural stability.
- 1.2.** Every floor, ceiling, wall, stairway, foundation, roof, balcony or porch on or appurtenant to a dwelling should be maintained free from holes, cracks, excessive wear and warping, or other defects that are accident hazards.
- *1.3.** Structurally sound handrails should be provided on at least one side of stairs not wider than 44 inches and on two sides of stairs greater than 44 inches in width. Handrails should be of proper height and have no obstruction on or above them which will break a hand hold, and should conform with the applicable by-laws and appropriate building code.
- *1.4.** Every open side of a stair, landing, raised porch or balcony, or a roof to which access is provided should be protected by a structurally sound balustrade or guard in good repair in accordance with the applicable by-laws and appropriate building code. The least dimension of any opening in a balustrade or guard should be not more than 4 inches.
- *1.5.** Landings which have glass windows extending lower than 42 inches above the landings would be considered open and should have balustrades or guards to provide for the necessary protection as indicated in Section 1.4.
- *1.6.** The occupants of every dwelling unit should have immediate access to not fewer than two non-obstructed and approved means of egress located as remotely as possible from one another and leading to safe and open space at ground level. The access to or egress from each dwelling unit should be provided without passing through any other dwelling unit or a furnace room. A single means of egress may be allowed for a dwelling unit in a building if:
 - (a) the building is not more than 2 storeys in building height; and
 - (b) the means of egress is an exterior door located at or near ground level; and
 - (c) the access to this exterior door is not through an attached or built-in garage, or through another dwelling unit.
- *1.7.** An approved fire alarm system should be provided in every building of 3 storeys or more in building height, or where sleeping accommodation is provided for 10 or more persons. This system need not be provided in buildings of 2 storeys or less where each dwelling or dwelling unit has direct access to outdoors at ground level, or in buildings having one or two dwelling units.

- 1.8.** Every public area and stairway in every multiple dwelling should be adequately illuminated to levels of not less than ten foot-candles measured at any part of the floor level or at the top of the tread so as to provide safe passage.
- *1.9.** Fuel oil and any other combustible or flammable material should be stored and located so as not to be a hazard to the premises served or to the surrounding property.
- 1.10.** Fuel-burning equipment or appliances located in rooms where the accumulation of products of combustion would be a hazard should at all times be adequately and properly vented to the outside to prevent such an accumulation.
- 1.11.** Notwithstanding Section 1.10,
- (a) No gas appliance of any kind should be installed in any room used for sleeping purposes; and
 - (b) fuel-burning water heaters should not be located in bathrooms or toilet rooms.
- *1.12.** A furnace that serves a multiple dwelling of more than two storeys including the basement or cellar, and having a building area of more than 4,000 sq. ft. should be separated from the remainder of the building by construction having a fire resistance rating of not less than one hour.
- 1.13.** The space or room in which any furnace is installed should have permanent opening or openings of sufficient size, connecting directly or indirectly with the outdoors.
- 1.14.** Every dwelling unit should have suitable facilities for the safe storage of drugs and potentially hazardous substances such as detergents, bleaches, insecticides, and polishes. All these substances should be properly stored so that:
- (a) they will not be accessible to small children; and
 - (b) they will be completely separated from food supplies.
- 1.15.** Electric service, outlets, and fixtures supplied to any dwelling, dwelling unit, or appurtenant areas should be properly installed and maintained in good and safe working condition and free from the hazards of electric shock or fire.
- 1.16.** All fences erected on any premises should be kept in good repair and free from hazardous conditions.
- 1.17.** All stairs, steps, walks, driveways, parking spaces and similar areas of a yard should be properly drained to prevent frost heave and to afford safe passage at all times.

Explanatory Notes

***1.1., 1.3., 1.4. and 1.5.**

(a) Buildings satisfying the requirements of the proposed Ontario Building Code or, pending its adoption, the National Building Code of Canada can be considered satisfactory.

(b) A properly designed stair must have a well-proportioned run and rise to minimize the hazards involved in its use. Building codes specify minimum and maximum dimensions of run and rise. They also specify that the product of the run and rise of stairs, measured in inches, shall be not less than 70 nor more than 75.

(c) The height of handrails and balustrades or guards is generally as follows:

1 – Handrails: not less than 30 inches nor more than 42 inches.

2 – Balustrade or guard:

- not less than 36 inches for stairways
- not less than 42 inches for porches, landings and balconies
- not less than 48 inches for roofs.

3 – The height is measured from the top of the tread or floor of porch, landing or balcony to the top of the handrail, balustrade or guard.

***1.6., 1.7., 1.9., 1.12**

All fire requirements must comply with those of the Fire Marshals Act. Where fire hazards exist or are suspected to exist, the local chief of the fire department should be contacted as soon as possible.

Section 2 Space Requirements

A. Objective

To provide guidance on the kinds, amounts and arrangement of space suitable for human habitation.

B. Guidelines

- 2.1.** Non-habitable rooms should not be used or permitted to be used on a continuous basis as habitable rooms or for sleeping purposes.
- *2.2.** Space located *partially* below grade should not be used as a habitable room unless approved by the Medical Officer of Health and unless:
 - (a) the floors and those portions of the walls below grade are of waterproof and dampproof construction;
 - (b) the space is adequately drained and is not subject to flooding from any cause;
 - (c) the total window area above grade and the total area of openable window are equal to at least those required in sections 7.3. and 7.4.; and
 - (d) there are no pipes, ducts or other obstructions lower than six feet, six inches (6'-6") above the floor level which may interfere with the normal use of the space, or considered a potential safety or health hazard.
- 2.3.** No space located *totally* below grade should be used as a habitable room.
- 2.4.** The ceiling height of any habitable room should be at least 7 feet and 6 inches over half the required floor area, and the floor area of that part of the room where the ceiling height is less than 5 feet should not be considered in computing the floor area.
- 2.5.** A room that is less than 7 feet and 6 inches in height over more than one-half of the floor area should be deemed to be a non-habitable room.
- 2.6.** The maximum number of occupants of a dwelling or a dwelling unit should be based on not less than 100 square feet of floor area for every occupant, calculated on the basis of total habitable room area.
- *2.7.** Every room used for sleeping purposes in a dwelling or a dwelling unit should provide a minimum floor area of 50 square feet for each occupant, provided that for the purpose of this section two children under the age of six years may be counted as one person.
- *2.8.** Notwithstanding section 2.7., no room used for sleeping purposes should have a floor area smaller than 75 square feet.
- *2.9.** The minimum horizontal dimension of rooms used for sleeping purposes should be 6' – 6" for rooms intended to be used by only one person, and 8' – 6" for rooms designed for the use of two or more persons.

- 2.10.** No dwelling or dwelling unit containing two or more sleeping rooms should have such room arrangements that access to a bathroom or toilet room intended for use by occupants or more than one sleeping room can be had only by going through another sleeping room; nor should room arrangements be such that access to a sleeping room can be had only by going through another sleeping room. A bathroom or toilet room should not be used as the only passageway to any habitable room, hall, basement or cellar or to the exterior of the dwelling unit.

Explanatory Notes

- 2.2.** (a) *The characteristic dampness associated with basements often takes the form of moisture which is condensed from the overly-humid air. Control of this dampness by way of dehumidification of the inside air is an important consideration for basements.*

***2.7., 2.8. and 2.9.**

The minimum space requirements indicated for bedrooms are primarily based on the need to accommodate basic furniture used for this function, and to provide for reasonable movement within the occupied space.

More attention is nowadays being paid to improving the fit of doors and windows to minimize thermal losses resulting from cold air infiltration in the cold weather season. With improved construction, leakage into the building could be considerably reduced to a point where such leakage will not provide adequate natural ventilation. Thus, the air space concept, as sometimes expressed in terms of cubic feet of air space per person, and as related to the provision of sufficient natural air ventilation, is now considered to be of little importance in the design of occupied spaces.

Notwithstanding the above, proper ventilation of the indoor space, regardless of its size, is an important consideration, and should meet the requirements of section 7.

Section 3 Water Supply and Sewage Disposal

A. Objective

To fulfill domestic needs for water supply and sewage disposal systems by identifying criteria which would preclude health hazards to the residents or the community.

B. Guidelines

- *3.1. Every dwelling or dwelling unit should have access to an adequate supply of potable water.
- *3.2. Every dwelling to which water is available under pressure through piping, should be provided with:
 - (a) piping for hot and cold water connected to every kitchen fixture, every washbasin, bathtub, shower, slop sink and laundry area and piping for cold water connected to every toilet and hose bib;
 - (b) equipment capable of supplying hot water to every washbasin, bathtub or shower at a temperature of not less than 120 degrees Fahrenheit.
- 3.3. Every dwelling or dwelling unit should be provided with facilities for the sanitary and safe disposal of sewage.
- 3.4. Water-carriage sewage disposal systems should be located and designed to comply with the applicable by laws or regulations and to the satisfaction of the Medical Officer of Health.
- 3.5. Non water-carriage sewage disposal systems should be located and of a design complying with the applicable regulations and sound practice and to the satisfaction of the Medical Officer of Health.

Explanatory Notes

- *3.1. (a) *The quality of potable water should be in accordance with the latest revision of:*
 - (1) *"Drinking Water Objectives", by the Ontario Ministry of the Environment.*
 - (2) *"The Canadian Drinking Water Standards and Objectives".*

(b) *The provision of an adequate supply of potable water will undoubtedly promote sanitation and personal hygiene, and satisfy culinary and other domestic needs. For this reason, it is recommended that any piped water supply system should be capable of providing a volume of not less than 50 gallons/person/day. In pressure systems, the flow pressure (or the pressure in the pipe at the entrance to any fixture) should not be lower than 8 psi when the fixture is in use. These values apply to domestic use and exclude fire fighting needs. Hose bibs, self-closing faucets and flush valves require a higher pressure for proper operation.*
- *3.2. (b) *Notwithstanding, if the temperature of hot water at bathtubs and showers exceeds 120°F, scalding hazards may be encountered.*

Section 4 Plumbing and Plumbing Fixtures

A. Objective

To allow efficient acceptance and disposal of all material that is normally carried in a domestic plumbing system by identifying criteria for plumbing and plumbing fixtures.

B. Guidelines

- *4.1. Plumbing should comply with the applicable regulations and be maintained to the satisfaction of the Medical Officer of Health.
- *4.2. Except as provided in section 4.3., every dwelling unit to which water is available under pressure through piping should contain plumbing fixtures consisting of at least:
 - (a) a toilet;
 - (b) a washbasin;
 - (c) a bathtub or shower; and
 - (d) a kitchen sink

- 4.3. The occupants of one or more than one dwelling unit may share the use of a toilet, a washbasin, and a bathtub, or shower provided that:
 - (a) not more than a total number of ten persons occupy the dwelling unit or units; and
 - (b) access to the fixtures can be gained without going through rooms of another dwelling unit or outside the building.

An additional toilet, washbasin, and bathtub should be provided for every additional ten persons or part thereof.

- 4.4. Within every dwelling unit to which water is available under pressure through piping, or as indicated in section 4.3., there should be a non-habitable room which affords privacy to a person within the said room and which is equipped with a flush toilet and a washbasin in good working order.
- 4.5. Notwithstanding the requirements of section 4.4., the bathtub or shower may be located in the same room as the flush toilet or can be located in a separate room which affords privacy to a person within the said room.
- 4.6. No toilet should be located within a room that is used,
 - (a) for the preparation, cooking, storing, or consumption of food; or
 - (b) for sleeping purposes.
- 4.7. Toilet rooms should not open directly into kitchens.

- *4.8.** Every water supply system which is piped and under pressure should be installed and maintained so that,
- (a) a supply of water to plumbing fixtures, devices and appurtenances should be provided at all times in sufficient volume and at pressure adequate to enable them to function satisfactorily and without undue noise under normal conditions of use;
 - (b) cross-connection between potable and non-potable water supplies should not occur;
 - (c) contamination of the potable water supply through backflow, back-siphonage, and any other method of contamination should be prevented; and
 - (d) hot water supply systems should be provided with safety devices arranged to relieve hazardous pressures and excessive temperatures.
- 4.9.** A water-carriage drainage system should be installed and maintained so as to provide,
- (a) water-seal traps on each fixture directly connected to the drainage system;
 - (b) adequate cleanouts to enable easy cleaning of pipes;
 - (c) adequate and proper venting of the system to maintain an equalized pressure throughout the system, and to eliminate odour problems; and
 - (d) proper air breaks on drains for fixtures, devices and appliances such as refrigerators, or dishwaters to prevent contamination of their contents from any possible backup of sewage.

Explanatory Notes

- *4.1.** *Plumbing should comply with the following Regulations:*
- (a) *Regulation 647 respecting Plumbing made under the Ontario Water Resources Act; and*
 - (b) *Regulation 715, Plumbing in Unorganized Territory, made under The Public Health Act.*
- *4.2.** *(1) Water supply systems cover any type of system in which water for domestic use is moved from the source to the point of use. This may include municipal systems, standpipes, hand pumps, and other types of community and private water supply systems. Other means of waste disposal include privies, incinerating devices, cesspools, seepage pits or other means which are approved by the appropriate authority.*
- *4.8.** *A simple test by which adequacy of pressure could be tested is to open simultaneously all faucets in the dwelling. If water is still flowing at a reasonable rate from the faucets, indications are that the pressure is satisfactory.*

Section 5 Basic Equipment

A. Objective

To prevent food-borne illness by prescribing facilities necessary for the hygienic preparation and storage of food; and to promote personal hygiene by prescribing facilities for ablution and laundering.

B. Guidelines

- *5.1.** Every dwelling or dwelling unit intended to have cooking facilities should be equipped with the following:
- (a) A stove or similar device for cooking food.
 - (b) A device or facility for the safe storage of food at temperatures less than 40°F but more than 32°F under ordinary maximum summer conditions.
 - (c) Cabinets and/or shelves for the storage of eating, drinking, and cooking equipment and utensils and of food that does not under ordinary summer conditions require refrigeration for safekeeping.
 - (d) A counter or table for food preparation.
- 5.2.** The stove and the refrigerating device or facility should be properly installed with all necessary connections for safe, sanitary and efficient operation, and should be in good repair and working order.
- 5.3.** The cabinet, shelves, and counter or table should be of sound construction and safely supported, and should have surfaces that are easily cleanable and that will not impart any toxic or deleterious effect to food.
- 5.4.** Every dwelling or dwelling unit should be provided with suitable facilities for washing, bathing and laundering.

Explanatory Notes

- *5.1.** (b) *The consumption of perishable food that has been contaminated by pathogenic bacteria and stored at temperatures that permit their growth can cause food poisoning or food infection. The most effective way of preventing food poisoning is to keep this food at temperatures that will inhibit bacterial growth. A temperature of less than 40°F would prevent the growth of organisms responsible for food-borne illness such as Salmonella, staphylococcus and Clostridium perfringens.*

Section 6 Heating

A. Objective

To achieve a reasonable degree of thermal comfort by prescribing conditions contributing to the physiological protection of the occupants.

B. Guidelines

- 6.1. There should be available in every dwelling a suitable heating facility that is properly maintained in such a manner as to be capable of providing throughout the year an inside temperature of not less than 68°F in all habitable rooms, bathrooms and toilet rooms measured at a distance of 3 feet or more from the exterior walls, and at a height of 2 feet above the floor level.
- *6.2. All heating facilities should be properly installed and maintained in safe and good working condition, and should be capable of safely and adequately supplying the required heat.
- *6.3. Doors and windows should be of such a construction as to prevent drafts and minimize heat losses through infiltration of outside cold air in the cold weather season.
- 6.4. No appliance for heating by gas should be installed in a room intended to be used for sleeping purposes.
- 6.5. Every heating appliance using solid, liquid or gas fuel should be connected to a suitable chimney or flue to withdraw safely all products of combustion in accordance with the applicable regulations.

Explanatory Notes

- *6.2. *All fuel-burning appliances should be installed in accordance with "The Energy Act"*
- *6.3. *Thermal insulation of buildings to minimize heat losses should be done in accordance with the provisions of the pending Ontario Building Code, or, in its absence, the provisions of the National Building Code of Canada.*

Section 7 Ventilation and Lighting

A. Objective

To ensure that residents can carry out their various household activities efficiently, comfortably and safely by prescribing means by which: (1) air will be free from contaminants, discomfort-causing or hazardous agents; (2) lighting is adequate.

B. Guidelines

- *7.1. Every dwelling should be provided with adequate means of ventilation capable of removing air contaminants within the dwelling.
- 7.2. Exhaust air from a dwelling unit should not be circulated to another dwelling unit.
- *7.3. The minimum total window or skylight area for every habitable room should be at least ten percent of the floor area of such room.
- *7.4. The total area of openable window or skylight in every habitable room should be equal to at least forty-five (45) percent of the minimum window area size or minimum skylight type window size except where there is supplied some other approved system which can provide adequate ventilation.
- *7.5. Every bathroom, toilet room and kitchen should be adequately ventilated to remove excess heat, humidity and odours.
- 7.6. Every basement, cellar, crawl space and similar space should be adequately ventilated.
- *7.7. In every dwelling, adequate artificial lighting should be provided in every bathroom, toilet room, kitchen, hall, stairway, basement or cellar, laundry room, furnace room, and any other non-habitable room. An artificial light source should be available in other habitable rooms.

Explanatory Notes

*7.1., 7.4. and 7.5

(a) The minimum ventilation rate that would provide satisfactory dilution of body odours is 5 cubic feet per minute per person. The recommended rate is 7.5 cfm per person, although 10 cfm per person has often been quoted as a good ventilation rate to reduce normal body odours to below the threshold of normal olfactory perception. If smoking is involved, a much greater amount of fresh air is needed to dilute tobacco smoke especially if greater population densities are also involved.

(b) If mechanical ventilation is used, the following rates will generally be adequate for removing excess heat, humidity and odours generated by normal activities within the indicated areas:

Kitchen	15 changes per hour
Bathroom and toilet room	8 changes per hour
Family, recreation and laundry rooms	6 changes per hour

It should be noted: In warm climates, where the air is comparatively available in residential environments, the ventilation rates shown may be excessive and may cause drafts or give a sensation of chilliness. In such circumstances, lower ventilation rates may be more acceptable.

(c) Occupants of a dwelling may become exposed to airborne contaminants for a prolonged period of time. Allowable indoor concentrations should, therefore, be much lower than those permitted in industrial applications.

As an example, the World Health Organizations in its Public Health Papers 33 entitled "The Physiological Basis of Health Standards for Dwellings" by M.S. Goromosov, shows that the indoor carbon dioxide concentration should not be allowed to exceed 0.1%, and that the average concentration should be less than 0.05%. The normal concentration of this gas in the atmosphere is, however, around 0.03% by volume, and may reach 0.07% in urban areas. On the other hand, the threshold limit value of carbon dioxide in industrial applications is 0.5%.

***7.3. and 7.4.**

Apart from the physiological benefits associated with it, daylight, as pointed out by Goromosov, gives a feeling of direct contact with the outside world, an emotional factor that is of particular importance for living premises. From a habitation standpoint, however, and in exceptional cases proper air conditioning and artificial lighting could be an acceptable substitute for natural ventilation and natural lighting.

The window or skylight area requirement indicated in section 7.3. is assumed to give a satisfactory minimum daylight factor (DF) of about 1% for a room with decorations of average reflection. The daylight factor is a convenient expression of the total interior natural illumination, that is, the light which reaches the interior directly from the sky, by reflection from outside obstructions, and by inter-reflection from the surfaces within the room, as a percentage of that available outdoors. As indicated by Hopkinson & Kay, the recommended levels of Daylight Factor are arrived at by a process of reasoning involving two main considerations:

- (a) that on dull days a sufficient amount of working daylight will be provided everywhere it is needed, and
- (b) that this sufficient level will be provided over the greater part of the working period throughout the year.

7.7. A minimum level of lighting should be provided in these areas to enable the individuals to carry out their various household functions comfortably, safely and without visual fatigue. The following are recommended minimum lighting intensities related to general lighting:

General lighting:

- bathroom, toilet room, laundry room, furnace room, and other
non-habitable rooms: (measured 30 inches above floor level)30 foot-candles
- public hall, corridor, stairway, landing;
(measured at floor level or tread)10 foot-candles
- kitchen (measured 30 inches above floor level)50 foot-candles

Section 8 Electrical

A. Objective

To promote comfort and prevent hazards by ensuring, where electrical power is provided, that electrical facilities and equipment are properly installed and maintained.

B. Guidelines

- *8.1. Where electrical power is available, every dwelling should be provided with an adequate supply of electric power, and with electrical facilities having ample capacity to meet all anticipated electrical uses without being overloaded.
- *8.2. Electrical wiring and equipment should be installed in conformity with the applicable regulations and accepted standards, and should be maintained so as not to be a potential source of fire or electric shock. Suitably rated overcurrent devices should be used to protect electrical wiring and equipment.
- 8.3. Every bathroom, toilet room, kitchen or kitchenette, laundry room, furnace room, public hall, and stairway should be supplied with at least one ceiling or one wall-type electric light fixture.
- 8.4. Electric outlets should be located as far away as practical from a bathtub or shower.
- 8.5. Switches for turning on one light in each room or passageway should be conveniently located so as to permit the area ahead to be lighted.

Explanatory Notes

- *8.1. *(a) Regulation 682 under the Power Commission Act specifies under Rules 8-006 and 8-008 that the ampacity, or current-carrying capacity, of a consumer's service or a feeder to a residential unit shall be not less than 50 amperes. The minimum ampacity shall be based on a calculation of different loads primarily involving lighting, electrical space heating, air conditioning, and electric range. The above Rules outline the method of calculating minimum ampacities for various types of residences.*
(b) Rule 8-036 of the same Regulation states that "the minimum number of 15-ampere branch circuits to be provided for in an installation shall be calculated on the basis of a maximum loading of 12 amperes for each circuit". As an example, a maximum total loading of, say, 60 amperes for a residential unit would require the provision of five, 15-ampere branch circuits.
- *8.2. *(a) The installation of electric wiring and electrical equipment must meet the requirements of the Power Commission Act and the regulations made thereunder*
(b) The following are some requirements specified by Ontario Hydro:
A minimum of 3 split duplex receptacles, each on a separate circuit, must be installed in each kitchen. Two shall be at the counter, separated by a distance of at least 6 feet, and the third at the location of the kitchen table.

One common duplex receptacle on a separate circuit shall be installed in the laundry or utility area.

At least two common duplex receptacles shall be installed in each room of 100 square feet or less, three duplex receptacles in each room 101 to 150 square feet and four receptacles in each room of more than 150 square feet.

A receptacle shall be installed at counter height in each bathroom in a location as far away as practical from the bath.

At least one outdoor grounded receptacle shall be installed in permanently-occupied residences so as to be readily accessible for appliances used outdoors.

It is recommended that each outdoor receptacle be controlled by a wall switch and wired on a separate circuit. All outdoor receptacles shall be of the weatherproof type.

No part of any usable wall space should be more than 6 feet from a receptacle. A receptacle should also be installed on wall sections that measure more than 2 feet.

(c) Situations where fire or electric shock hazards exist may involve one or more of the following cases:

- 1. Defective wiring insulation or exposed wires.
- 2. Overloaded electric circuits.
- 3. Overfusing of electric fuses.
- 4. Loose switch plates or outlet plates.
- 5. Proximity of electric circuits to flammable material.
- 6. Electrical devices not grounded.

(d) The American Public Health Association in its publication titled "Accident Control in Environmental Health Programs – A Guide for Public Health Personnel" (1966) discussed the physiological effects of electrical shocks. In tests conducted on volunteers to determine the threshold of sensitivity, let-go current, and freeze current, the results indicated the following values:

Threshold of sensitivity	1 milli-ampere
Let-go current	less than 5 milli-ampere
Freeze current	more than 5 milli-ampere

As a result of the above, electric appliances should be kept away from pull-away or let go if more than 5 milli-amperes flowed through the body.

Section 9 Refuse Disposal

A. Objective

To protect the residents from the potential health hazards created by the accumulation of solid waste products.

B. Guidelines

- 9.1.** Except as stated in Section 9.4., the occupants of a dwelling or a dwelling unit should store and dispose of all rubbish, garbage, and ashes in a clean, sanitary and safe manner.
- 9.2.** Rubbish, garbage, and ashes should be stored in a manner satisfactory to the Medical Officer of Health in receptacles which should be,
 - (a) insect-proof and rodent proof;
 - (b) water-tight;
 - (c) provided with a tight-fitting cover; and
 - (d) maintained in a clean condition.
- 9.3.** Where approved by the Medical Officer of Health, plastic bags may be used in lieu of the receptacles provided that they conform with the following:
 - (a) they are made of approved material having a nominal thickness of not less than 1.5 mils;
 - (b) each bag can be securely closed by proper means;
 - (c) bags are stored in a suitable bin where they will not be accessible to insects, rodents, and animals;
 - (d) storage of bags will not give rise to a fire hazard; and
 - (e) storage space is maintained in a clean and sanitary condition.
- 9.4.** The Owner of every multiple dwelling should provide suitable bins for the storage of receptacles or plastic bags, and these bins should be maintained in a clean and sanitary condition. The owner of every multiple dwelling should also supply receptacles or plastic bags for the safe and sanitary disposal of rubbish, garbage, and ashes. In the case of single or two family dwellings, it should be the responsibility of the occupant to furnish the necessary receptacles or plastic bags.
- 9.5.** Garbage should be removed from the premises at least once in every week, and should be disposed of in a sanitary manner.
- 9.6.** All yards appurtenant to a dwelling or a dwelling unit should be well drained and maintained in a clean, sanitary and safe manner, and should be kept free of rubbish, garbage, or ashes which may harbour insects or rodents, or become a fire hazard.

Section 10 Insects and Rodents

A. Objective

To minimize the hazards to health imposed by the presence of insects and rodents in and around the dwelling.

B. Guidelines

- 10.1.** No occupant or owner of a dwelling or dwelling unit should accumulate or permit the accumulation of rubbish, garbage, ashes, or any other materials in such a manner that may provide insect or rodent harborage in or about any dwelling, dwelling unit, or shared or public areas of a dwelling or its premises. These materials should be stored and disposed of in accordance with Section 9 of this guideline, and to the satisfaction of the Medical Officer of Health.
- 10.2.** Every window and every other opening located at or near ground level which is intended to be used for ventilation or for other purposes, and which may provide entry for rodents, should be supplied with an adequate screen or other suitable material which will effectively prevent their entrance.
- 10.3.** During that time of the year when protection against insects is needed, every outside door, window or other opening to outside space which is intended to be used for ventilation should be screened with mesh not larger than 16 gauge.
- 10.4.** Extermination of insects and rodents should be done in accordance with the provisions of the Pesticides Act and the Regulation made under this Act.

Section 11 Sound

A. Objective

To promote the mental, physical and social well-being of the residents by providing a residential environment that is reasonably free from unwanted sound.

B. Guidelines

- *11.1.** The construction of a dwelling unit should provide reasonable insulation against transmission of air-borne sound or structure-borne (impact) sound from outside or neighbouring spaces into the dwelling or dwelling unit, or between dwelling units.
- 11.2.** Stationary machines, engines, or equipment involving moving parts should be installed so that:
 - (a) they have proper foundations which are adequately insulated from building foundations or from the structure to prevent transmission of vibrations or structure-borne sound; and
 - (b) they are located in a room which will provide sufficient insulation against air-borne sound transmission to neighbouring spaces.
- *11.3.** A sound transmission class (STC) rating of not less than 45 should be provided by the construction:
 - (a) between dwelling units in the same building;
 - (b) between a dwelling unit and any space common to two or more dwelling units; and
 - (c) between dwelling units and such spaces as a service room, storage room, laundry room, workshop or building maintenance room, or garage serving more than one dwelling unit.
- *11.4.** Construction described in the National Building Code of Canada as having airborne sound ratings of I and II should be deemed to satisfy the requirements of Section 11.3.

Explanatory Notes

***11.1.** *A desirable goal for sleeping rooms, according to the American Public Health Association**, involves a background noise level of not more than 35 dBA, with occasional sounds up to 45 dBA and rare peaks of 55 dBA. Ten dBA higher is, however, acceptable to most people for most household activities including communication.*

***11.3. & 11.4.**

The sound transmission class (STC) rating is a measure of the airborne sound attenuation provided by a barrier. Airborne sound ratings of I and II should reduce the

transmission of airborne noise through the barriers by 50 dB and 45 dB, respectively. The following are examples of different types of walls and floors and their respective sound rating. Tables I-A and I-C of the National Building Code of Canada, or Tables A-1 and A-3 of the pending Ontario Building Code, show the sound rating of many types of walls, floors, ceilings and roofs.

Description

- (a) 8-inch thick brick wall with no finish sound rating I
- (b) 4-inch thick brick wall with no finish sound rating II
- (c) 5-inch reinforced concrete floor slab with ¾-in. minimum
cover over reinforcing steel with no finish sound rating I
- (d) 3½-inch reinforced concrete floor slab with ¾-in. minimum
cover over reinforcing steel with no finish sound rating II

** American Public Health Association (1971): "Housing: Basic Health Principles & Recommended Ordinance".

Section 12 Maintenance Requirements

A. Objective

To avoid hazardous conditions and potential health problems brought on by the physical deterioration of the property, dwelling and equipment.

B. Guidelines

- 12.1.** All premises should be maintained in a clean, sanitary and safe condition to the satisfaction of the Medical Officer of Health.
- 12.2.** Every foundation, roof and exterior wall, door, skylight, and window should be weather-tight and should be maintained in good repair.
- 12.3.** Floors, interior walls and ceilings should be free from any dampness at all times, and should be sound and in good repair and sanitary condition.
- *12.4.** All rain water from any building and surface drainwater should be disposed of in a proper and an approved manner so as to prevent the entrance of water into a basement or cellar, and to preclude their discharge onto a sidewalk, driveway, stairway, or an adjoining property.
- 12.5.** The exterior area of the premises, including fences, stairs, steps, walks, driveways, parking spaces and similar areas, should be maintained in good repair.
- 12.6.** Ragweed and other noxious plants such as poison ivy, poison oak, and poison sumac should be eliminated from every yard.
- 12.7.** Accumulation of refuse, filth, or any other material that may give rise to health or fire hazards should not be permitted in any dwelling or dwelling unit, or in any part of the premises unless stored as prescribed in Section 9.
- 12.8.** The floor surfaces of every toilet room, bathroom and kitchen should be constructed and maintained as to be impervious to water and to permit such floor to be easily kept in a clean and sanitary condition.
- *12.9.** Wall surfaces within shower stalls, and adjacent to bathtubs either equipped or not with showers, should be constructed as to be impervious to water in accordance with the requirements of the appropriate building code. Such wall surface should be kept in a clean and sanitary condition.
- 12.10.** All plumbing and plumbing fixtures in a dwelling including water pipes, drain pipes, toilets and connecting lines to water and sewer systems should be maintained in good repair and sanitary condition.
- 12.11.** All chimneys, flues, smoke pipes, vents, heating systems, water heaters, electric circuits, and all basic equipment located in a dwelling, a dwelling unit or in any part of the premises should at all times be maintained in good working order and free from health and fire hazards.
- 12.12.** All means of egress should be maintained free from storage or any obstruction.

Explanatory Notes

- *12.4. Suitable methods of rainwater disposal may include disposal into sanitary or storm municipal sewers, drainage ditches, and properly designed dry wells. The first two methods are controlled or local by laws under The Municipal Act and The Drainage Act.
- *12.9. The relevant building codes specify that waterprooing shall be provided to a height of 6 in. above the floor in shower stalls, 4 ft. above the rims of bathtubs equipped with showers, and 16 in. above the rims of bathtubs not equipped with showers.

Appendix I

Glossary

1. *ashes*. The residue from the burning of wood, coal, coke, and other combustible material.
2. *attic*. Any storey situated wholly or partly within the roof.
3. *basement*. Portion of a building that is partly below grade and that has at least half of its height, measure from floor to ceiling, above the adjacent finished grade.
4. *building*. A structure affording shelter to persons, animals, or property.
5. *cellar*. Portion of a building that is partly or entirely below grade, and that has more than half of its height, measured from floor to ceiling, below the adjacent finished grade.
6. *dwelling*. An enclosed space which is wholly or partly used or intended to be used for human habitation.
7. *dwelling unit*. Any room or group of rooms located within a dwelling and forming a single habitable unit which is used or intended to be used for human habitation.
8. *garbage*. The animal and vegetable waste resulting from the handling, preparation, cooking, and serving of foods.
9. *habitable room*. A room or enclosed floor area used or intended to be used for living, sleeping, cooking or eating purposes.
10. *medical officer of health*. The medical officer of health of a municipality or of a health unit or his representative or, in unorganized territory, a medical officer of health or his representative appointed by the Ministry of Health for a specified area.
11. *multiple dwelling*. Any dwelling containing more than two dwelling units.
12. *non-habitable room*. A room or enclosed floor area not to be used or intended to be used as a habitable room. A non-habitable room includes bathroom, toilet room, laundry room, furnace room, pantry, foyer, communicating corridor, stairway, storage space, workshop, or a room in a cellar or in an attic used for recreational purposes.
13. *owner*. The person or persons having legal title to the land, premises, dwelling, or dwelling unit, or managing, controlling, being in charge of, receiving or collecting the rent, or acting as agent or representative of the actual owner or owners of such a land, premise, dwelling or dwelling unit.
14. *plumbing system*. The water supply system, the drainage system, the vent system, fixtures, and traps, including their respective connections, devices, and appurtenances within the property lines of the premises.
15. *potable water*. Water which is safe and fit for human consumption.
16. *premises*. A parcel of land or plot of land, either occupied or unoccupied by any dwelling or non-dwelling structure, and includes any such building, accessory structure or other structure thereon.

17. *refuse*. All putrescible and non-putrescible matter (except body wastes) including garbage, rubbish, and ashes.
18. *rubbish*. Non-putrescible solid wastes (excluding ashes) consisting of either:
 - (a) combustible wastes such as paper, cardboard, plastic containers, yard clippings, and wood; or
 - (b) non-combustible wastes such as tin cans, glass and crockery.
19. *safe*. Free from danger and hazards which may cause accidents or disease.
20. *sewage*. Any liquid waste from a dwelling unit containing animal, vegetable or mineral matter in suspension or solution, but does not include storm water.

Appendix II

Bibliography

Acts and Regulations: (Latest Revisions should be used)

1. The Energy Act and Regulations made under The Energy Act.
2. The Environmental Protection Act and Regulations made under the Act.
3. Fire Marshals Act.
4. The Pesticides Act. Regulation 657 under the Pesticides Act.
5. Regulation 647 respecting Plumbing made under the Ontario Water Resources Act.
6. Regulation 715, Plumbing in Unorganized Territory, made under the Public Health Act.
7. The Power Commission Act.
Regulation 683 under the Power Commission Act.
8. *The Public Health Act, June 1974.*

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